



# Grand Water & Sewer Service Agency



## Annual Report 2015

## President's Message

Grand Water & Sewer Service Agency is pleased to present its Annual Report for the year 2015. It is hoped that this synopsis of the Agency's activities in 2015 will give all those interested a better understanding of the functions the Agency performs and the issues it faces.

The Board and Staff of the Agency appreciate the opportunity to serve the citizens of Spanish Valley.

*Dan Pyatt*

President

## Board Members

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Dan Pyatt, President

Gary Wilson, V. President

Brian Backus, Operating Comm.

Mike Holyoak, Operating Comm.

Rex Tanner, Operating Comm.

Rick Thompson, Operating Comm.

Dale Weiss, Operating Comm.

Kyle Bailey

Lynn Jackson

Jerry McNeely

Preston Paxman

Tom Stengel

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Tom Stengel, Vice Chair

Dale Weiss, Treasurer

Mike Holyoak, Clerk

Rick Thompson

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Mike Holyoak, Vice Chair

Kyle Bailey

Lynn Jackson

Rick Thompson

### GCWCD

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Jerry McNeely, Vice Chair

Brian Backus

Preston Paxman

Rex Tanner

## Project and Program Report

### Equipment Program

A total of 1,273 hours of equipment time was used in 2015. Average vehicle mileage was 9,402.

### 3mg Tank Water Line Replacement

The Agency replaced 2,000 feet of C905 pipe from the three-million-gallon tank with HDPE pipe. The line was replaced after experiencing several unexplained breaks. Nelco Contractors of Price, Utah was awarded the bid. Total cost of the project was \$ \$278,000 of which \$121,345 was grant, \$121,000 was loan and \$35,655 was local contribution. The loan was repaid in December of 2015.

### Major Leak Repairs

A possibly decades long leak located on the White's Ranch property near Moab City's chlorination building was discovered and repaired in December of 2015. Operations staff estimated the leak at approximately 20,000 gallons per day. The line runs under Pack Creek and broke on one side of the crossing, leaking into the creek. For years, the leak was thought to be a natural spring which are plentiful in the vicinity.

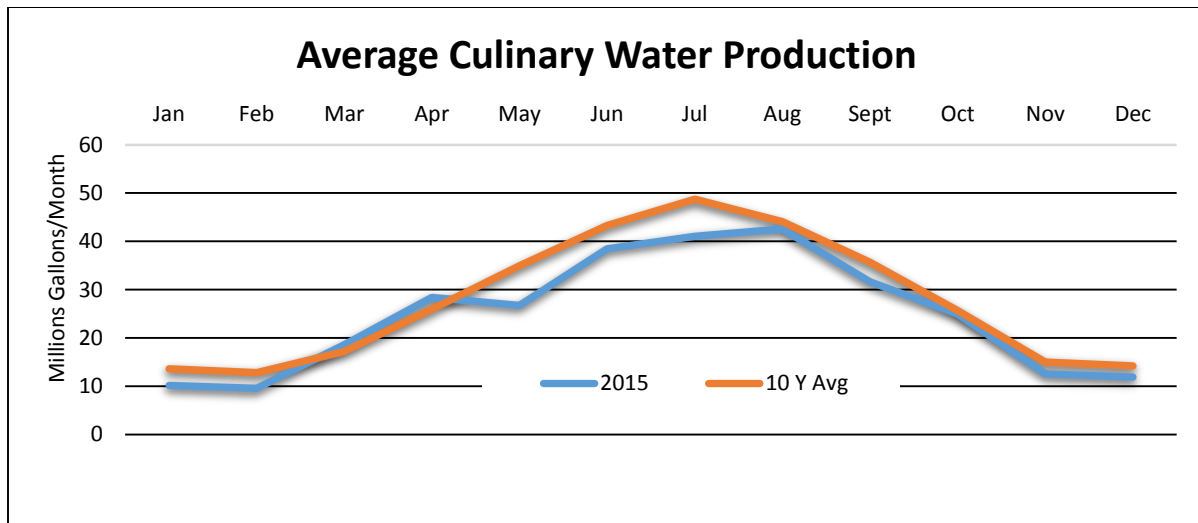
### Operator Hours Tracking by Service

Operators completed 895 customer service orders in 2015. 57% water, 4% irrigation, 3% sewer, and 37% locate requests (Blue Stakes). Blue Stakes locate requests increased by 10% from 2014. Operator time tracking outside of customer service orders was approximately 84% culinary, 10% Sewer and 6% Irrigation

# Culinary Water System

## 2015 Culinary Water Production

	Production 2014	Production 2015
January	10,801,000	10,178,000
February	9,068,000	9,548,000
March	15,555,000	18,574,000
April	23,769,000	28,416,000
May	30,001,000	26,706,000
June	40,805,000	38,492,000
July	48,018,000	41,027,000
August	36,532,000	42,582,000
September	33,261,000	31,625,000
October	23,076,000	24,955,000
November	13,044,000	12,558,000
December	12,098,000	11,889,000
<b>TOTALS</b>	<b>296,028,000</b>	<b>296,550,000</b>
<b>Monthly Average</b>	<b>24,669,000</b>	<b>24,712,500</b>



### Culinary Water Power Cost

Water Produced 296,550,000 gal. or 910.08 AF

Power Costs \$0.20 per 1000 gal. or \$64.03 per AF

Historical Power costs per 1,000 gallons:

<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
\$0.20	\$0.23	\$0.24	\$0.20

## Culinary Water System (Cont'd)

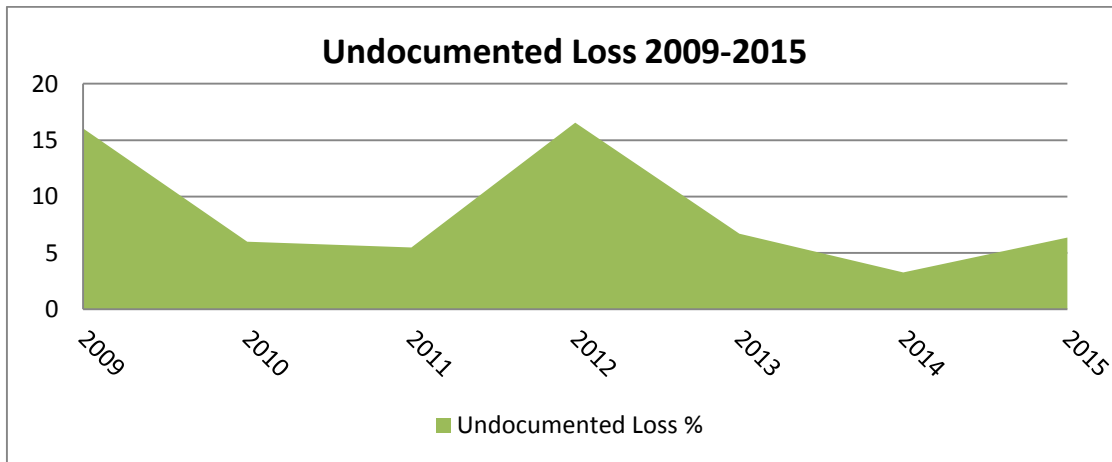
### 2015 Culinary Water Metered Use

Month	Gallons 2014	Gallons 2015
January	10,585,000	8,222,000
February	7,689,000	8,294,000
March	10,043,000	9,216,000
April	23,939,000	28,687,000
May	23,448,000	23,357,000
June	33,679,000	32,647,000
July	45,432,000	34,952,000
August	37,902,000	40,249,000
September	28,608,000	38,357,000
October	24,493,000	27,593,000
November	14,974,000	11,513,000
December	9,356,000	9,634,000
<b>Total</b>	<b>270,148,000</b>	<b>272,721,000</b>
<b>Monthly Average</b>	<b>22,512,333</b>	<b>22,726,750</b>

### Water Audit

2015 Metered Use	272,721,000	gallons
Water in Storage	4,000,000	gallons
2015 Production	296,550,000	gallons
2015 Lost water	19,829,000	gallons
Documented Loss	975,250	gallons
Undocumented Loss	18,853,750	gallons
% of Undocumented Loss	6.36%	

*Lost water due to leakage, fire flows, un-metered use and meter malfunction.*



### Compliance with Safe Drinking Water Act

2015 saw no violations of the Safe Drinking Water Act.

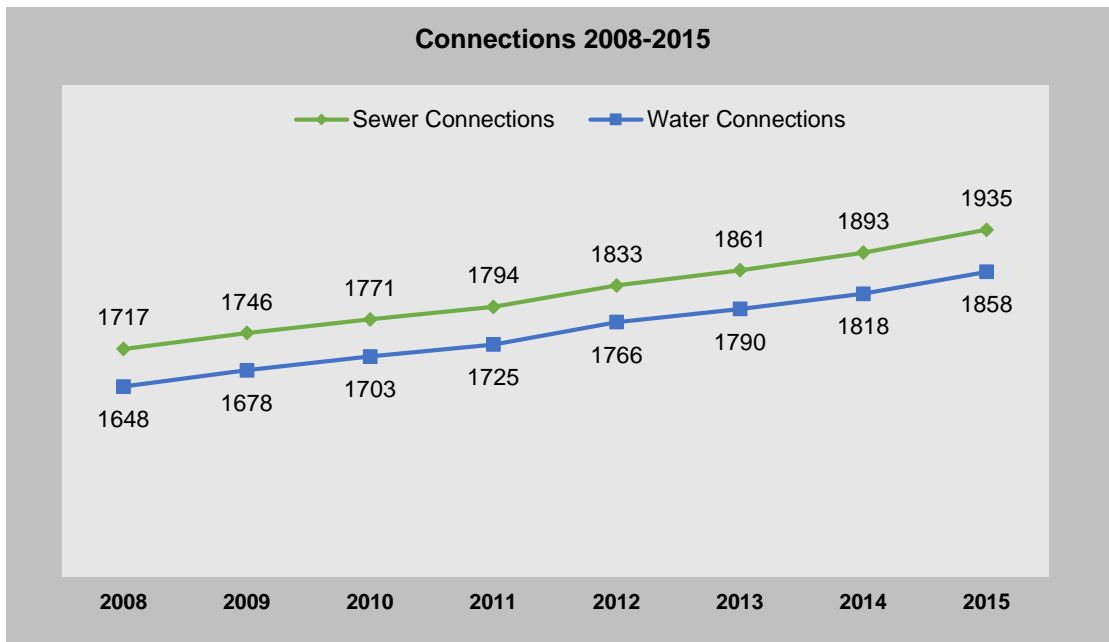
### Consumer Confidence Report

The 2015 Consumer Confidence Report is included in *Appendix A*.

# Culinary Water System (Cont'd)

## System Growth

	Water	Sewer
New Residential Connections	39	39
New Commercial Connections	1	2
New MDU Connections	0	1
Total Residential Connections	1726	1794
Total Commercial Connections	119	127
Total MDU Connections	13	14
<b>Total 2015 Connections</b>	<b>1858</b>	<b>1935</b>
Average Active Connections/Month	1781	1845
Average % of Connections Active	96%	95%
<b>2015 System Percent Growth</b>	<b>2.2%</b>	<b>2.2%</b>



## Ken's Lake Irrigation System

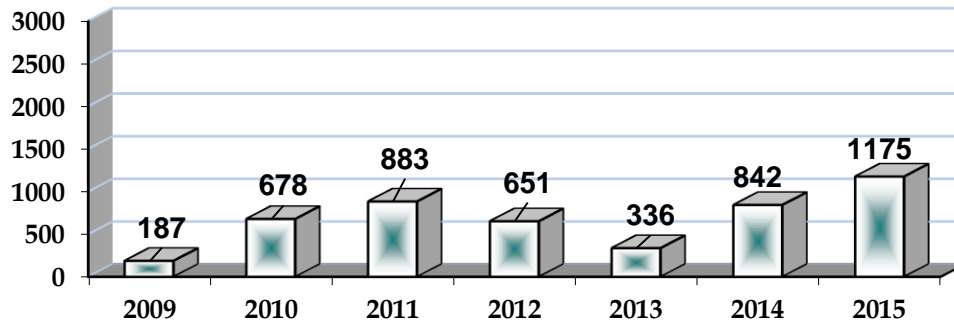
### Estimate of 2015 Ken's Lake Seepage

Amount in storage at end of 2014	1248 AF
Amount diverted to Ken's Lake	3679* AF
Amount delivered to Irrigation pipeline	2144 AF
Evaporation Estimate	200 AF
Amount in storage at end of 2015	1408 AF
Estimated seepage	1175 AF

\*Note – Data provided by DWR. Subject to any corrections or changes by the Division.

## Ken's Lake Irrigation System (Cont'd)

### Estimated Seepage in AF 2009-2015



## Ken's Lake Water Diverted

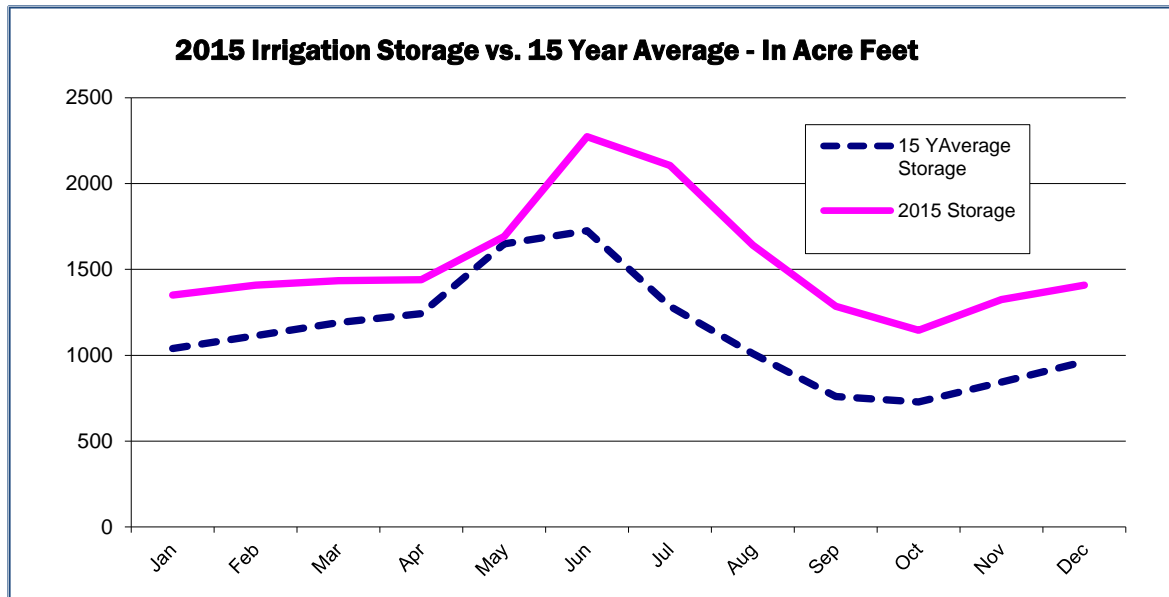
2015 Water Diverted Through Sheley Tunnel			
Month	15 Year Average	Diverted 2015	% of Average
	AF	AF	
January	168	118	70%
February	127	103	81%
March	166	169	102%
April	360	262	73%
May	1002	577	58%
June	775	1148	148%
July	311	484	155%
August	239	220	92%
September	183	134	73%
October	214	157	73%
November	191	252	132%
December	159	56	35%
<b>Total</b>	<b>3896</b>	<b>3680</b>	<b>94%</b>

Note:  
December 2015 meter was under frozen conditions. Data provided by DWR.

## Ken's Lake Storage

Ken's Lake Storage Vs. 15 year Average				
Month	Average	2015 Storage	% of Average	% of Capacity
	AF	AF		
January	1039	1350	130%	52%
February	1113	1408	126%	54%
March	1190	1435	121%	55%
April	1243	1439	116%	55%
May	1649	1691	103%	65%
June	1726	2274	132%	87%
July	1285	2105	164%	81%
August	1010	1641	163%	63%
September	760	1286	169%	49%
October	728	1146	157%	44%
November	844	1325	157%	51%
December	963	1408	146%	54%
Total Capacity is 2610 AF				

## Ken's Lake Irrigation System (Cont'd)



## Review of Water Management and Conservation Plan

An updated Conservation Plan was submitted in 2014. The following five-year goals were identified:

Goal #1 – Reduce Spanish Valley’s per capita use by ten percent (10%).

Goal #2 – Maintain a financially viable water system.

Goal #3 – Implement and maintain a more aggressive consumer education program.

Goal #4 – Reduce culinary water system losses.

Goal #5 – Collect data on non-resident population water use

### Goal #1 Use per Capita – Population estimate: 3750

Year	Annual Water Produced	Per Capita Daily Use
State Average		240 gpcd
2013	325,841,000 gal.	238 gpcd
2015	296,550,000 gal.	217 gpcd – 8.8% reduction
GWSSA GOAL #1		214 gpcd – 10% reduction

Water saved 238 gpcd compared to 217 gpcd – 29,212,500 gallons or 89.65 AF

### Goal #2 – Maintain a financially viable water system

Water rates are reviewed annually to ensure financial viability. Residential water rates are designed to encourage conservation in an ascending block system and remained unchanged in 2015.

#### Residential Water Rate

\$19.50 base rate – includes no usage

0-8,000 gallons = \$0.60/1 kgal

8,001-15,000 gallons = \$1.40/1 kgal

15,001 and up = \$2.00/1 kgal

## Review of Water Management and Conservation Plan (Cont'd)

### Goal #3 – Consumer education

Educational flyers are available at the Agency office. These flyers, suggesting practices for indoor and outdoor water conservation, are offered to all new customers at time of application for water service. More educational materials and message delivery options are in development.

The Agency's website – [www.grandwater.org](http://www.grandwater.org) is an excellent source of conservation information and provides links to water professionals statewide. The conservation education information is updated seasonally. The Agency directs customers to the website via messages on the monthly billings.

### Goal #4 – Reduce system losses

The water audit is located in the **Culinary Water System** portion of this report. The audit indicates undocumented lost water on the system of 6.36%. GWSSA repaired a long-time leak in December of 2015 that was losing an estimated 20,000 gallons per day. The outflow meter on the 3mg tank was replaced as part of the waterline replacement project and provides for greater metering accuracy.

### Goal #5 – Collect data on non-resident population water use

Isolating the amount of water used by our residents (counted in the census) will provide information and insight to aid in targeting educational efforts and future considerations. Data collected by Grand County will assist in determining where to focus those efforts.

### Outdoor watering restrictions

Watering during the heat of the day between 10:00 a.m. and 6:00 p.m. is recognized as inefficient use of outside water. The Agency shall ask all users to restrict outside watering during that time period. Water users shall be informed periodically by use of mailings, billing messages, brochures, and/or news media.





# Appendix A

# *2015 Annual Drinking Water Quality Report*

## *Grand Water & Sewer Service Agency*

We are pleased to present to you this year's Annual Drinking Water Quality Report. This report is designed to inform you about the quality of the water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water. Our water sources are from groundwater. Our water sources are George White Well #4, George White Well #5, Chapman Well and the Spanish Valley Well. The wells draw water from the Glen Canyon Aquifer.

The Drinking Water Source Protection Plan for Grand Water & Sewer Service Agency (GWSSA) is available for your review. It contains information about source protection zones, potential contamination sources and management strategies to protect our drinking water. Our sources have been determined to have a low level of susceptibility from potential contamination from sources such as septic tanks, roads, residential or industrial development. We have also developed management strategies to further protect our sources from contamination. Please contact us if you have questions or concerns about our source protection plan.

There are many connections to our water distribution system. When connections are properly installed and maintained, the concerns are very minimal. However, unapproved and improper piping changes or connections can adversely affect not only the availability, but also the quality of the water. A cross connection may let polluted water or even chemicals mingle into the water supply system when not properly protected. This not only compromises the water quality but can also affect your health. So, what can you do? Do not make or allow improper connections at your homes. Even that unprotected garden hose lying in the puddle next to the driveway is a cross connection. The unprotected lawn sprinkler system after you have fertilized or sprayed is also a cross connection. When the cross connection is allowed to exist at your home, it will affect you and your family first. If you'd like to learn more about helping to protect the quality of our water, call us for further information about ways you can help.

This report shows our water quality and what it means to you our customer. If you have any questions about this report or concerning your water utility, please contact Mark Sovine at 435-259-8121. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held on the first and third Thursday of each month at 7:00 p.m. at the GWSSA office. Copies of this report are available at the GWSSA office or at [www.grandwater.org](http://www.grandwater.org). Copies will be mailed to customers upon request.

GWSSA routinely monitors for constituents in our drinking water in accordance with the Federal and Utah State laws. The following table shows the results of our monitoring for the period of January 1<sup>st</sup> to December 31<sup>st</sup>, 2015. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk.

In the following table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

**Non-Detects (ND)** - laboratory analysis indicates that the constituent is not present.

**ND/Low - High** - For water systems that have multiple sources of water, the Utah Division of Drinking Water

has given water systems the option of listing the test results of the constituents in one table, instead of multiple tables. To accomplish this, the lowest and highest values detected in the multiple sources are recorded in the same space in the report table.

**Parts per million (ppm) or Milligrams per liter (mg/l)** - one part per million corresponds to one minute in two years or a single penny in \$10,000.

**Parts per billion (ppb) or Micrograms per liter (ug/l)** - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

**Picocuries per liter (pCi/L)** - picocuries per liter is a measure of the radioactivity in water.

**Nephelometric Turbidity Unit (NTU)** - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**Maximum Contaminant Level (MCL)** - The “Maximum Allowed” (MCL) is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

**Maximum Contaminant Level Goal (MCLG)** - The “Goal” (MCLG) is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**Date**- Because of required sampling time frames i.e. yearly, 3 years, 4 years and 6 years, sampling dates may seem outdated.

TEST RESULTS							
Contaminant	Violation Y/N	Level Detected ND/Low-High	Unit Measurement	MCLG	MCL	Date Sampled	Likely Source of Contamination
<b>Microbiological Contaminants</b>							
Turbidity for Ground Water	N	< 1-2	NTU	N/A	5	2014	Soil runoff
<b>Inorganic Contaminants</b>							
Arsenic	N	ND-2	ppb	0	10	2012	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium	N	ND-43	ppb	2000	2000	2012	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium	N	ND-4	ppb	100	100	2012	Discharge from steel and pulp mills; erosion of natural deposits
Copper a. 90% results b. # of sites that exceed the AL	N	a. 55 b.0	ppb	1300	AL=1300	2014	Corrosion of household plumbing systems; erosion of natural deposits
Fluoride	N	186-300	ppb	4000	4000	2012	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

Lead a. 90% results b. # of sites that exceed the AL	N	a. 1 b.0	ppb	0	AL=15	2014	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate (as Nitrogen)	N	200-500	ppb	10000	10000	2015	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	N	1-5	ppb	50	50	2012	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Sodium	N	13-18	ppm	None set by EPA	None set by EPA	2012	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills.
Sulfate	N	57-87	ppm	1000	1000	2012	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills, runoff from cropland
TDS (Total Dissolved solids)	N	200-252	ppm	2000	2000	2012	Erosion of natural deposits
Chlorine	N	56	ppb	4000	4000	2015	Water additive used to control microbes
<b>Radioactive Contaminants</b>							
Alpha emitters	N	ND	pCi/l	0	15	2012	Erosion of natural deposits
Radium 228	N	ND	pCi/l	0	5	2012	Erosion of natural deposits

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. GWSSA is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

As you can see by the table, our system had no violations. We're proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some constituents have been detected. The EPA has determined that your water is safe at these levels.

All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or man-made. Those constituents can be microbes, organic or inorganic chemicals, or radioactive materials. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Some people may be more vulnerable to contaminants in drinking water than the general population.

Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care providers about drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

We at GWSSA work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.